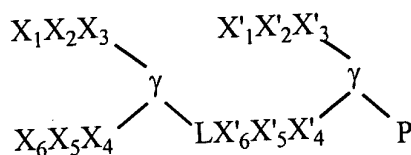


8. (Amended) A tandem-linked polyamide of claim 1 having the formula:



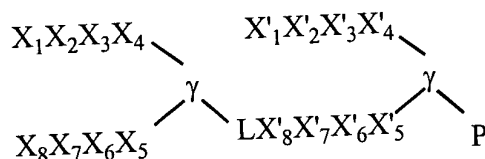
wherein γ is a chiral hairpin linkage derived from R-2,4-diaminobutyric acid;

X_1/X_6 , X_2/X_5 , X_3/X_4 , X'_1/X'_6 , X'_2/X'_5 , and X'_3/X'_4 represent six carboxamide binding pairs which bind DNA base pairs wherein at least one binding pair is Hp/Py or Py/Hp and the other binding pair(s) is(are) selected from the group consisting of Py/Im, Im/Py, and Py/Py to correspond to the DNA base pair in the minor groove to be bound;

L represents an amino acid linking group selected from the group consisting of β -alanine and 5-aminovaleric acid (δ); and

P represents zero to ten polyamides of claim 1.

9. (Amended) A tandem-linked polyamide of claim 1 having the formula:



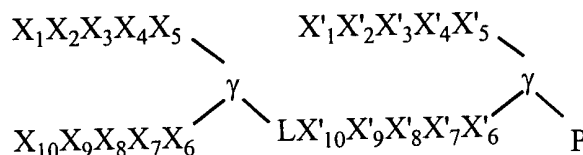
wherein γ is a chiral hairpin linkage derived from R-2,4-diaminobutyric acid;

X_1/X_8 , X_2/X_7 , X_3/X_6 , X_4/X_5 , X'_1/X'_8 , X'_2/X'_7 , X'_3/X'_6 , and X'_4/X'_5 represent eight carboxamide binding pairs which bind DNA base pairs wherein at least one binding pair is Hp/Py or Py/Hp and the other binding pair(s) is(are) selected from the group consisting of Py/Im, Im/Py, and Py/Py to correspond to the DNA base pair in the minor groove to be bound;

L represents an amino acid linking group selected from the group consisting of β -alanine and 5-aminovaleric acid (δ), and

P represents zero to ten polyamides of claim 1.

10. (Amended) A tandem-linked polyamide of claim 1 having the formula:



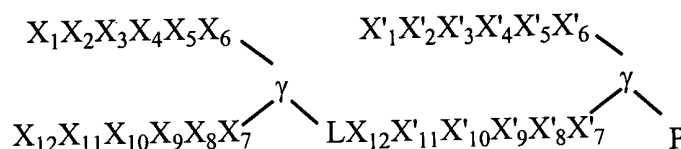
wherein γ is a chiral hairpin linkage derived from R-2,4-diaminobutyric acid;

X_1/X_{10} , X_2/X_9 , X_3/X_8 , X_4/X_7 , X_5/X_6 , X'_1/X'_{10} , X'_2/X'_9 , X'_3/X'_8 , X'_4/X'_7 , and X'_5/X'_6 represent ten carboxamide binding pairs which bind DNA base pairs wherein at least one binding pair is Hp/Py or Py/Hp and the other binding pair(s) is(are) selected from the group consisting of Py/Im, Im/Py, and Py/Py to correspond to the DNA base pair in the minor groove to be bound;

L represents an amino acid linking group selected from the group consisting of β -alanine and 5-aminovaleric acid (δ); and

P represents zero to ten polyamides of claim 1.

11. (Amended) A tandem-linked polyamide of claim 1 having the formula:



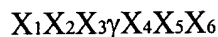
wherein γ is a chiral hairpin linkage derived from R-2,4-diaminobutyric acid;

X_1/X_{12} , X_2/X_{11} , X_3/X_{10} , X_4/X_9 , X_5/X_8 , X_6/X_7 , X'_1/X'_{12} , X'_2/X'_{11} , X'_3/X'_{10} , X'_4/X'_9 , X'_5/X'_8 and X'_6/X'_7 represent twelve carboxamide binding pairs which bind DNA base pairs wherein at least one binding pair is Hp/Py or Py/Hp and the other binding pair(s) is(are) selected from the group consisting of Py/Im, Im/Py, and Py/Py to correspond to the DNA base pair in the minor groove to be bound;

L represents an amino acid linking group selected from the group consisting of β -alanine and 5-aminovaleric acid (δ); and

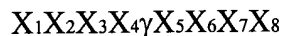
P represents zero to ten polyamides of claim 1.

12. (Amended) A tandem-linked polyamide comprising a first and second polyamide wherein said first polyamide is a polyamide having the formula:



wherein γ is a chiral hairpin linkage derived from R-2,4-diaminobutyric acid; and X_1/X_6 , X_2/X_5 , and X_3/X_4 represent three carboxamide binding pairs which bind DNA base pairs wherein at least one binding pair is Hp/Py or Py/Hp and the other binding pair(s) is(are) selected from the group consisting of Py/Im, Im/Py, and Py/Py to correspond to the DNA base pair in the minor groove to be bound; said second polyamide is a polyamide according to claim 5, 6 or 7; and said first and second polyamides being linked by an amino acid linking group selected from the group consisting of β -alanine and 5-aminovaleric acid (δ) bound to the γ -residue of said first polyamide and the carboxy tail of said second polyamide.

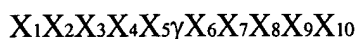
13. (Amended) A tandem-linked polyamide comprising a first and second polyamide wherein said first polyamide is a polyamide having the formula:



wherein γ is a chiral hairpin linkage derived from R-2,4-diaminobutyric acid; and X_1/X_8 , X_2/X_7 , X_3/X_6 , and X_4/X_5 represent four carboxamide binding pairs which bind DNA base pairs wherein at least one binding pair is Hp/Py or Py/Hp and the other binding pair(s) is(are) selected from the group consisting of Py/Im, Im/Py, and Py/Py to correspond to the DNA base pair in the minor groove to be bound; said second polyamide is a polyamide according to claim 4, 6 or 7; and said first and second polyamides being linked by an amino acid linking group selected from the group consisting of β -alanine and 5-aminovaleric acid (δ) bound to the γ -residue of said first polyamide and the carboxy tail of said second polyamide.

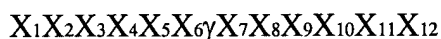
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14. (Amended) A tandem-linked polyamide comprising a first and second polyamide wherein said first polyamide is a polyamide having the formula:



wherein γ is a chiral hairpin linkage derived from R-2,4-diaminobutyric acid; and X_1/X_{10} , X_2/X_9 , X_3/X_8 , X_4/X_7 , and X_5/X_6 represent five carboxamide binding pairs which bind DNA base pairs wherein at least one binding pair is Hp/Py or Py/Hp and the other binding pair(s) is(are) selected from the group consisting of Py/Im, Im/Py, and Py/Py to correspond to the DNA base pair in the minor groove to be bound; said second polyamide is a polyamide according to claim 4, 5, or 7; and said first and second polyamides being linked by an amino acid linking group selected from the group consisting of β -alanine and 5-aminovaleric acid (δ) bound to the γ -residue of said first polyamide and the carboxy tail of said second polyamide.

15. (Amended) A tandem-linked polyamide comprising a first and second polyamide wherein said first polyamide is a polyamide having the formula:



wherein γ is a chiral hairpin linkage derived from R-2,4-diaminobutyric acid; and X_1/X_{12} , X_2/X_{11} , X_3/X_{10} , X_4/X_9 , X_5/X_8 , and X_6/X_7 represent six carboxamide binding pairs which bind DNA base pairs wherein at least one binding pair is Hp/Py or Py/Hp and the other binding pair(s) is(are) selected from the group consisting of Py/Im, Im/Py, and Py/Py to correspond to the DNA base pair in the minor groove to be bound; said second polyamide is a polyamide according to claim 4, 5, or 6; and said first and second polyamides being linked by an amino acid linking group selected from the group consisting of β -alanine and 5-aminovaleric acid (δ) bound to the γ -residue of said first polyamide and the carboxy tail of said second polyamide.



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APPL PARTS

____ IMIS ____
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____ LET ____
Misc. Incoming Letter
____ 371P ____
PCT Papers in a 371 Application
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Transmittal New Application

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____ CTFR ____
Count Final Rejection

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____ N/AP ____
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Change in Power of Attorney
____ REM ____
Applicant Remarks in Amendment
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Extension of Time filed separate

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Examiner Search Notes
____ CLMPTO ____
PTO Prepared Complete Claim Set

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Evidence Copy Box Identification
____ WCLM ____
Claim Worksheet
____ WFEE ____
Fee Worksheet

File Wrapper

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File Wrapper Claim
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File Wrapper Issue Information
____ SRFW ____
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BACKFILE DOCUMENT INDEX SHEET

REMARKS

The instant application relates in part to improved polyamides that bind to the minor groove of duplex DNA molecules. In particular, the instant claims relate to polyamides comprising a hairpin loop derived from γ -aminobutyric acid. In certain embodiments, the polyamides on the instant invention can be linked through the

Claims 1-19 and 22-26 are pending in the instant application, with claims 1-7, 22, and 26 having been allowed and claims 23-25 have been withdrawn from consideration by the Examiner. Applicants have cancelled claims 23-25, and amended claims 8-15 herein.

The amended claims are fully supported by the specification and do not introduce new matter or require a new search. The amendments simply clarify the claimed invention using preferred terminology, and are not intended to further limit the claims, and should not be taken to do so. For example, claims 8-11 have been amended to particularly point out and distinctly claim that P moiety represents zero to ten polyamide of claim 1. Claims 12-15 are amended solely to present these claims in a proper form. Claims 16-19 depend on claims 8-11.

Notwithstanding the foregoing, Applicants expressly reserve the right to prosecute subject matter no longer or not yet claimed in one or more applications that may claim priority hereto. Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the following comments.

37 C.F.R. §1.75 (c)

Claims 12-15 have been objected to under 37 C.F.R. §1.75(c), as allegedly being in improper form for multiple dependent claims (Paper No. 13, page 2). Applicants respectfully submit that the foregoing amendments for these claims render the rejection moot.

Claims 8-11 and 16-19 have been objected to under 37 C.F. R. §1.75 (c), as allegedly being of improper dependent form for failing to further limit the subject matter of a previous claim. In particular, claims 8-11 and 16-19 give the options of the moiety " γ " in the formula as being either " $-\text{NH}-\dots$ " or a chiral linkage derived from R-2,4-diaminobutyric acid", which options are outside of the scope of claim 1 (Paper No. 13, page 3). Applicants have amended

claims 8-11 deleting "-NH-....". Applicants therefore respectfully submit that the foregoing amendments render the object moot.

35 U.S.C. § 112, Second Paragraph

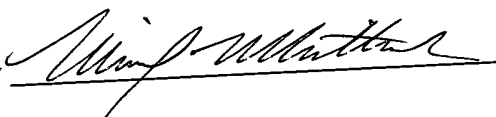
Claims 8-11 and 16-19 have been rejected under 37 C.F.R. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner pointed out that in the last line of claims 8-11 the indication of P moiety was unclear, and the phrase "or a derivative thereof" cited in the claims 9-11 was vague and indefinite. Applicants have amended these claims by clarifying the P moiety which represents zero to ten polyamide of claim 1, and deleting the phrase "or a derivative thereof". Applicants therefore respectfully request that the Examiner withdraw the rejection.

Accordingly, in view of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims are in condition for allowance. An early notice to that effect is earnestly solicited. Should any matters remain outstanding, the Examiner is encouraged to contact the undersigned at the address and telephone number listed below so that they may be resolved without the need for additional action and response thereto.

Respectfully submitted,

Date April 2, 2001

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